

Angeles Marin- Batana

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Research Interests: Core ML, NLP, and RL for trustworthy AI- reliability, interpretability, fairness, and privacy, in a human-centered framework.

EDUCATION

Ball State University
B.S. Computer Science; B.S. Spanish; Minor in Sociology
• GPA: 3.5/4.0
• Concentrations: Data Analytics and Machine Learning; Language and Culture Studies

May 2025
Muncie, IN

PUBLICATIONS & PRESENTATIONS

Conference Papers
S. Malviya, A. Fonteles, A. Marin Batana, and A. Burch-DeWitt, “Recommending Security Requirements through Asset Identification and Threat Mapping,” in *RE@Next! (RE 2025 Papers Track)*, Valencia, Spain, Sept. 2025.

Invited Talks
“Finding My Place in UX and Computer Science”- Ball State Digital Corps (virtual), Feb 2024.

AWARDS

- **NSF REU-** North Dakota State University (2024): Selected for a highly competitive NSF-funded Research Experience for Undergraduates in scalable machine learning systems.
- **Department Honors in Computer Science-** Ball State University (2025): Earned honors distinction by maintaining ≥ 3.5 in-major GPA and coauthoring a peer-reviewed scholarly article under faculty supervision.
- **Dean’s List-** Ball State University: Recognized for academic excellence in Fall 2022, Spring 2023, Fall 2023, Summer 2024, Fall 2024, and Spring 2025.

RESEARCH EXPERIENCE

Artificial Intelligence and Cybersecurity Research Assistant
Ball State University
• Engineered Retrieval-Augmented Generation (RAG) pipelines that reduced irrelevant threat outputs from ~50 % to <20 % and eliminated hallucinated requirements, using OpenAI API + ChromaDB on CVE data.
• Curated 324,608 Common Vulnerabilities and Exposures (CVE) entries and filtered to 2023–2024 using pandas + CSV, shrinking the dataset to recent vulnerabilities and enabling efficient top-k threat retrieval.
• Helped design the asset-extraction / threat-mapping module in an asset→threat→requirements generator; identified system assets from proprietary GAMMA-J corpus and produced actionable security requirements now used in lab demos.
• Authored a literature review on transformer models (BERT, GPT-4) and RAG approaches, developing an evaluation rubric adopted by the group and contributing to the acceptance of our paper at RE@Next! 2025.

Oct 2024 – Sept 2025
Muncie, IN

Big Data Analytics and Machine Learning Researcher
North Dakota State University
• Selected for an NSF-funded REU to research scalable machine learning solutions by parallelizing Bat Algorithm variants using Apache Spark for high-performance classification on large datasets.
• Implemented two Bat Algorithm (BA) parallelization strategies — data-parallel (distributing datasets) and task-parallel (distributing bats) — using Apache Spark; achieved substantial speedup gains up to 16–24 cores, with performance plateauing beyond 24–32 cores.
• Benchmarked across 10 dataset sizes (200–2000 samples) and 7 core counts (2–64) using reproducible scripts; observed near-ideal scaleup up to ~1000 samples before execution times increased noticeably for larger datasets.
• Presented results at Universidad de Chile (Escuela de Ingeniería y Ciencias), highlighting performance

May 2024 – Jul 2024
Fargo, ND; Santiago, Chile

tradeoffs and scalability considerations in parallelizing Bat Algorithm implementations with Apache Spark.

INDUSTRY EXPERIENCE

Co-Founder & Software Engineer

Aug 2024 – Present

Placenet

Indianapolis, IN

- Shipped two MVPs (mobile → web); led a 5-person team; delivered the mobile APK to the client; pre-pilot stage.
- Migrated Postgres/Express/S3→Firebase in two months; reduced hosting costs and maintenance effort; implemented auth, CRUD, and property/contractor workflows.
- Delivered 15+ features; instituted code reviews and sprint rituals; served as primary client liaison and demo owner; prepared the product for pilot via APK handoff.
- Generated 10 leads with 7 follow-on conversations at GEC/TechChicago; co-authored the YC S25 application.

UX/ UI Researcher | Junior Project Manager

Sept 2023 – May 2025

The Digital Corps | Ball State University

Muncie, IN

- Led and collaborated with cross-functional teams and university-wide clients to deliver user-centered UX/UI solutions supporting digital transformation initiatives.
- Managed and executed 10+ projects with 100% on-time delivery, leveraging clear communication, strategic planning, and iterative feedback.
- Conducted user interviews, created wireframes, mapped user journeys, and designed complex user flows to enhance usability and meet client needs.
- Presented design proposals and creative solutions to stakeholders, demonstrating strong communication skills and an ability to align design decisions with project goals.

IT Operations Intern

May 2023 – Aug 2023

Magna International

Muncie, IN

- Troubleshooted and resolved hardware and software issues for 100+ end-users, ensuring significant customer satisfaction and avoiding company-wide downtime.
- Configured and maintained Windows 10 computers to ensure reliable, efficient IT operations.
- Enhanced data analytics by leveraging QuickBase and Power BI to analyze and visualize company-wide data, improving reporting efficiency.

EARLY RESEARCH

Pharmaceutical Chemistry Research Intern

Jun 2021 – Aug 2021

Eli Lilly & Company

Indianapolis, IN

- Synthesized 10 studies on oral delivery of polypeptides into a 3-page brief and 10-slide presentation, building knowledge of distinct formulation approaches within Eli Lilly's SMDD division for internal reference.
- Presented findings to an audience of ~80 interns and mentors, demonstrating clear scientific communication and data interpretation skills.

Clinical Research Intern

Jul 2020 – Aug 2020

Indiana University Purdue University Indianapolis

Virtual

- Synthesized ~6 studies on anti-VEGF therapy for diabetic retinopathy into an 8-slide, 10-min brief for Indiana University School of Medicine (virtual); materials shared with cohort and mentors.
- Presented to ~35 mentors/interns; slides archived in the Indiana CTSI STEM Research Symposia gallery for reference.

SKILLS & CERTIFICATIONS

Technologies:

- **Languages:** Python · Java · JavaScript · TypeScript · Swift · Ruby · C · HTML · CSS
- **AI/ML:** OpenAI API · LangChain · ChromaDB · TensorFlow · PyTorch · Scikit-learn · Apache Spark · Pandas · NumPy · Jupyter · R · Power BI · Tableau
- **Software Development:** React Native · Expo · Axios · Docker · GitHub · IntelliJ IDEA · VS Code · Lovable ·

Express.js · Jest · PostgreSQL · MySQL · Firebase · Amazon S3

- **Certifications:**

- DataCamp: Understanding Machine Learning, Understanding Artificial Intelligence, Responsible AI Practices, Large Language Models Concepts, Introduction to R, Introduction to ChatGPT, AI Ethics, Generative AI Concepts, Explainable Artificial Intelligence (XAI) Concepts, AI Security and Risk Management
- CITI Program: Physical Science Responsible Conduct of Research, Biomedical Responsible Conduct of Research, Social and Behavioral Responsible Conduct of Research, IUEHS Biosafety Training, NIH Recombinant DNA Guidelines, Human Gene Transfer
- Indiana University: HIPAA Privacy & Security, An introduction to Compliance at IU, HIPPA & Mobile Devices,

- **Communication:**

- English, Spanish

PROFESSIONAL MEMBERSHIPS

- Institute of Electrical and Electronics Engineers, IEEE (2025- Present)
- Society of Women Engineers, SWE (2025- Present)